AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing Of Claims

1. (original) An evaluation apparatus, comprising:

an AC input signal superimposing circuit for superimposing an AC input signal to a gate of a MOSFET (Metal Oxide Semiconductor Field Effect Transistor);

an AC component measurement circuit for measuring an AC component of a current flowing between a source and a drain of the MOSFET when the AC input signal is superimposed to the gate; and

a mutual conductance calculation circuit for calculating a mutual conductance at a frequency of the AC input signal of the MOSFET from a ratio of amplitude of an AC component of a measured current and amplitude of the AC input signal,

wherein the gate, the source, and the drain of the MOSFET are being applied a DC voltage.

2. (original) An evaluation apparatus according to claim 1, wherein the MOSFET is a SOI (Silicon On Insulator) MOSFET having a SOI structure.

3. (currently amended) An evaluation apparatus according to claim 1, further comprising:

a drain current calculation circuit for calculating a drain current at ~~around~~ a frequency of the AC input signal by measuring the mutual conductance by sweeping a gate voltage and integrating the mutual conductance by the gate voltage.

4. (currently amended) An evaluation apparatus according to claim 2, further comprising:

an AC component amplitude calculation circuit for calculating an amplitude of an AC component of a body voltage ~~under a condition of the AC input signal being inputted~~ from ~~a ratio of~~ a mutual conductance of the SOI MOSFET at a frequency of the AC input signal, [[and]] a mutual conductance of the SOI MOSFET at DC, a dependency of threshold voltage on a body voltage of the SOI MOSFET, and DC gate voltage ~~without superimposing the AC input signal, and from a relation between the body voltage of the SOI MOSFET and a threshold value~~.

5. (original) An evaluation apparatus according to claim 1, further comprising:

a circuit simulation unit for simulating the SOI MOSFET;

a comparator circuit for comparing a gate·source·drain voltage dependency of a frequency characteristic of the mutual conductance obtained from the mutual conductance calculation circuit as a result of measurement of the MOSFET with a gate·source·drain voltage dependency of a frequency

characteristic of the mutual conductance obtained as a result of circuit simulation for simulating the MOSFET; and

a parameter control circuit for changing a parameter which is used for the circuit simulation so that a frequency characteristic of the mutual conductance obtained as a result of the circuit simulation approaches to a frequency characteristic of the mutual conductance obtained from a result of measurement of the MOSFET.

6. (currently amended) An evaluation apparatus according to claim 1, wherein ~~a measurement~~ the calculation of the mutual conductance is conducted under a bias condition that the gate voltage is within ±0.5 V of a threshold value of the MOSFET.

7. (original) An evaluation apparatus according to claim 1, wherein the AC input signal superimposing circuit superimposes the AC input signal to the gate under a condition of applying the DC voltage to the substrate as well as the gate, the source, and the drain.

8. (original) An evaluation apparatus, comprising:

an AC input signal superimposing circuit for superimposing an AC input signal to a drain of a SOI (Silicon On Insulator) MOSFET (Metal Oxide Semiconductor Field Effect Transistor);

an AC component measurement circuit for measuring an AC component of a current flowing between a source and a drain of

the SOI MOSFET when the AC input signal is superimposed to the drain; and

a drain conductance calculation circuit for calculating a drain conductance at a frequency of the AC input signal of the SOI MOSFET from a ratio of amplitude of an AC component of a measured current and amplitude of the AC input signal,

wherein the gate, the source, and the drain of the SOI MOSFET are being applied a DC voltage.

9. (currently amended) An evaluation apparatus according to claim 8, further comprising:

an AC component amplitude calculation circuit for calculating amplitude of an AC component of a body voltage ~~under a condition of the AC input signal being inputted~~ from ~~a ratio of~~ a drain conductance at a frequency of the AC input signal, [[and]] a drain conductance ~~of the SOI MOSFET~~ at DC, a dependency of threshold voltage on a body voltage of the SOI MOSFET, and DC drain voltage ~~without superimposing the AC input signal, and a relation between the body voltage of the SOI MOSFET and a threshold value~~.

10. (original) An evaluation apparatus according to claim 8, further comprising:

a circuit simulation unit for simulating the SOI MOSFET;

a comparator circuit for comparing a gate·source·drain voltage dependency of a frequency characteristic of the drain

conductance obtained from the drain conductance calculation circuit as a result of measurement of the MOSFET with a gate·source·drain voltage dependency of a frequency characteristic of the drain conductance obtained as a result of circuit simulation for simulating the MOSFET; and

a parameter control circuit for changing a parameter which is used for the circuit simulation so that a frequency characteristic of the drain conductance obtained as a result of the circuit simulation approaches to a frequency characteristic of the drain conductance obtained from a result of measurement of the MOSFET.

11. (currently amended) An evaluation apparatus according to claim 8, wherein the calculation ~~a measurement~~ of the drain conductance is conducted under a bias condition that an absolute value of the gate voltage is within 0.5 V of a threshold value of the MOSFET.

12. (original) An evaluation apparatus according to claim 8, wherein the AC input signal superimposing circuit superimposes the AC input signal to the gate under a condition of applying the DC voltage to the substrate as well as the gate, the source, and the drain.

13. (original) A circuit design method, comprising steps of:

a step for superimposing an AC input signal to a gate of a MOSFET (Metal Oxide Semiconductor Field Effect Transistor);

a step for measuring an AC component of a current flowing between a source and a drain of the MOSFET when the AC input signal is superimposed to the gate;

a step for calculating a mutual conductance at a frequency of the AC input signal of the MOSFET from a ratio of amplitude of an AC component of a measured current and amplitude of the AC input signal;

a step for comparing a gate·source·drain voltage dependency of a frequency characteristic of the mutual conductance obtained as a result of measurement of the MOSFET with a gate·source·drain voltage dependency of a frequency characteristic of the mutual conductance obtained from circuit simulation for simulating the MOSFET; and

a step for changing a parameter which is used for the circuit simulation so that a frequency characteristic of the mutual conductance obtained as a result of the circuit simulation approaches to a frequency characteristic of the mutual conductance obtained from a result of measurement of the MOSFET,

wherein the gate, the source, and the drain of the MOSFET are being applied a DC voltage.

14. (original) A circuit design method according to claim 13, wherein the MOSFET is a SOI (Silicon On Insulator) MOSFET having a SOI structure.

15. (original) A circuit design method according to claim 13, wherein the parameter is at least one of capacitances

and resistors between a body of the MOSFET and the gate·source·drain.

16. (original) A circuit design method according to claim 13, wherein the step for superimposing the AC input signal superimposes the AC input signal to the gate under a condition of applying the DC voltage to the substrate as well as the gate, the source, and the drain.

17. (original) A circuit design method, comprising steps of:

a step for superimposing an AC input signal to a drain of a SOI (Silicon On Insulator) MOSFET (Metal Oxide Semiconductor Field Effect Transistor);

a step for measuring an AC component of a current flowing between a source and a drain of the SOI MOSFET when the AC input signal is superimposed to the drain;

a step for calculating a drain conductance at a frequency of the AC input signal of the SOI MOSFET from a ratio of amplitude of an AC component of a measured current and amplitude of the AC input signal;

a step for comparing a gate·source·drain voltage dependency of a frequency characteristic of the drain conductance obtained as a result of measurement of the MOSFET with a gate·source·drain voltage dependency of a frequency characteristic of the drain conductance obtained from circuit simulation for simulating the SOI MOSFET; and

a step for changing a parameter which is used for the circuit simulation so that a frequency characteristic of the drain conductance obtained as a result of the circuit simulation approaches to a frequency characteristic of the drain conductance obtained from a measurement result of the MOSFET,

wherein the gate, the source, and the drain of the SOI MOSFET are being applied a DC voltage.

18. (original) A circuit design method according to claim 17, wherein the parameter is at least one of capacitances and resistors between a body of the SOI MOSFET and the gate·source·drain·substrate.

19. (original) A circuit design method according to claim 17, wherein the step for superimposing the AC input signal superimposes the AC input signal to the gate under a condition of applying the DC voltage to the substrate as well as the gate, the source, and the drain.

20. (original) A circuit design system, comprising:

a function block for superimposing an AC input signal to a gate of a MOSFET (Metal Oxide Semiconductor Field Effect Transistor);

a function block for measuring an AC component of a current flowing between a source and a drain of the MOSFET when the AC input signal is superimposed to the gate;

a function block for calculating a mutual conductance at a frequency of the AC input signal of the MOSFET from a ratio

of amplitude of an AC component of a measured current and amplitude of the AC input signal;

a function block for comparing a gate·source·drain voltage dependency of a frequency characteristic of the mutual conductance obtained as a result of measurement of the MOSFET with a gate·source·drain voltage dependency of a frequency characteristic of the mutual conductance obtained from circuit simulation for simulating the MOSFET; and

a function block for changing a parameter which is used for the circuit simulation so that a frequency characteristic of the mutual conductance obtained as a result of the circuit simulation approaches to a frequency characteristic of the mutual conductance obtained from a result of measurement of the MOSFET,

wherein the gate, the source, and the drain of the MOSFET are being applied a DC voltage.

21. (original) A circuit design system according to claim 20, wherein the MOSFET is a SOI MOSFET having a SOI (Silicon On Insulator) structure.

22. (original) A circuit design system according to claim 20, wherein the parameter is at least one of capacitances and resistors between a body of the MOSFET and the gate·source·drain·substrate.

23. (original) A circuit design system according to claim 20, wherein the function block for superimposing the AC input signal superimposes the AC input signal to the gate under a

condition of applying the DC voltage to the substrate as well as the gate, the source, and the drain.

24. (original) A circuit design system, comprising:

a function block for superimposing an AC input signal to a drain of a SOI (Silicon On Insulator) MOSFET (Metal Oxide Semiconductor Field Effect Transistor);

a function block for measuring an AC component of a current flowing between a source and a drain of the SOI MOSFET when the AC input signal is superimposed to the drain;

a function block for calculating a drain conductance at a frequency of the AC input signal of the SOI MOSFET from a ratio of amplitude of an AC component of the measured current and amplitude of the AC input signal;

a function block for comparing a gate·source·drain voltage dependency of a frequency characteristic of the drain conductance obtained as a result of measurement of the MOSFET with a gate·source·drain voltage dependency of a frequency characteristic of the drain conductance obtained by circuit simulation for simulating the SOI MOSFET; and

a function block for changing a parameter which is used for the circuit simulation so that a frequency characteristic of the drain conductance obtained as a result of the circuit simulation approaches to a frequency characteristic of the drain conductance obtained from a result of measurement of the MOSFET,

wherein the gate, the source, and the drain of the SOI MOSFET are being applied a DC voltage.

25. (original) A circuit design system according to claim 24, wherein the parameter is at least one of capacitances and resistors between a body of the SOI MOSFET and the gate·source·drain·substrate.

26. (original) A circuit design system according to claim 24, wherein the function block for superimposing the AC input signal superimposes the AC input signal to the gate under a condition of applying the DC voltage to the substrate as well as the gate, the source, and the drain.